

In the Abstract:

### **ABSTRACT OF THE DISCLOSURE**

In an electronic voting process, a voter ( $V_i$ ) encrypts his vote ( $v_i$ ) according to the encryption scheme ( $E_{TM}$ ) of a tallier mix-net (50) used to tally up the votes cast. The voter ( $V_i$ ) obtains on his encrypted vote, ( $x_i$ ), from an admin server module (20), a digital signature according to a fair blind signature scheme (FBSS). The encrypted vote ( $x_i$ ) is encrypted a second time, together with the unblinded digital signature ( $y_i$ ) thereof by the admin server, using the encryption scheme ( $E_M$ ) of a randomizing mix-net (40), to yield an output ( $c_i$ ), and the voter uses his own signature scheme ( $S_i$ ) to sign this, giving ( $\sigma_i$ ). The voter sends an ID code and data including ( $c_i, \sigma_i$ ) to a bulletin board server (30). Discrepancies in this vote data can be detected and their origin traced by prompting the randomizing mix-net servers (40) to provide proofs of correctness, and using the signature-tracing mechanism of FBSS.

(Fig.1)